

**Abstract**

A memory device comprising a layer of piezoelectric material and a layer of ferroelectric material clamped together such that a voltage applied to one layer results in a voltage being generated across the other layer. The method of data storage and retrieval comprising the steps of: providing a layer of ferroelectric material, providing a layer of piezoelectric material, clamping the two layers together, storing data by internally polarising the ferroelectric material in one of two stable directions in accordance with the data to be stored, and retrieving stored data by applying a non-polarising voltage to one layer and detecting a resultant voltage from the other layer. Preferably, the piezoelectric material is implemented as a ferroelectric material.

Refer to Fig. 2

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